

## Towards The Sustainability of the Rickshaw

Rumana Rashid<sup>1</sup>, Ruba Rummana<sup>2</sup> and Md. Sayem Khan<sup>3</sup>

*Traditional Vehicle is the symbol and image of any society. The "rickshaw" as a traditional Vehicle in Bangladesh is a known Vehicle around the world. It emerges as a resultant of different societal forces that include economy, technology, politics, culture and above all the aspirations of the people. The aim of this paper is to analyse the economical and social issue of rickshaw in Bangladesh. Data were collected through questioner field survey within Dhaka city and suburban areas around Dhaka city in Bangladesh. The result was found out that rickshaws are playing a vital for economical development of Bangladesh. So Bangladesh also needs to be done in terms of searching and development of alternative energy sources and energy efficient measures to curb the effects and impact of energy consumption and utilization. We need to focus on energy efficiency green Vehicle. Rickshaw is a green Vehicle uses alternative fuel sources, such as solar power.*

**Key words:** Green Vehicle, Rickshaw, economical development, social issue

### 1. Introduction

The "rickshaw" is a known Vehicles around the world. The rickshaw is, being a small-scale local means of Vehicle. It is a human-powered vehicle for hire, usually with one or two seats for carrying passengers in addition to the driver. Rickshaws are pulled by a person on foot. Rickshaw-pullers are known as "Rikshawala" in Bangladesh. Configurations of the vehicle is powered by the driver as one would usually a tricycle are configured as rickshaws in Bangladesh. The configuration of driver's and passenger's seat varies, though in general only one configuration is common in any region in Bangladesh. The passenger seat is mounted behind the driver's on a "delta" tricycle. Rickshaws are widely used in almost all parts of Bangladesh. Bangladesh's capital city Dhaka is known as a rickshaw city (Cycle rickshaw, web viewed). Now a day Rickshaw is the most sustainable environment friendly vehicle in Bangladesh. However, increasing traffic congestion and the resulting collisions have led to the banning of rickshaws on many major streets in the city. Still, in many parts of old Dhaka, rickshaws are the only kind of vehicle that can travel through the narrow streets. Despite uncertainties in the price of fuel and likewise, energy, the demand has not abated in the ASEAN country (Azni, 2008). So Bangladesh also needs to be done in terms of searching and development of alternative energy sources and

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<sup>1</sup>Phd. in architecture (Candidate), Department of Architecture, Faculty of Built Environment, University Technology Malaysia (UTM), Malaysia, E-mail: [rashid\\_rumana@yahoo.com](mailto:rashid_rumana@yahoo.com)

<sup>2</sup>Associate Professor, Department of Art and Science, Ahsanullah University of Science and Technology (AUST), Dhaka, Bangladesh. [rubachy@yahoo.com](mailto:rubachy@yahoo.com)

<sup>3</sup>M.Arch (Candidate), Department of Architecture, Faculty of Built Environment, University Technology Malaysia (UTM), Malaysia

energy efficient measures to curb the effects and impact of energy consumption and utilization. We need to focus on energy efficiency green vehicle. Rickshaw is a green vehicle uses alternative fuel sources, such as man power.

## 2. History

Traditional vehicle is the symbol and image of any society. It emerge is as a resultant of different societal forces that include economy, technology, politics, culture and above all the aspirations of the people. The Rickshaw is the traditional vehicle of the Bangladesh. It is the result of that same creative urge and archetypal consciousness, which shaped and reshaped it by different socio-cultural and socio-political forces at different period and time. Bangladesh, which formed a part of the undivided Bengal long time ago, being a distantly located land on the north-eastern extremity of the Indian sub-continent has remained virtually unaffected by the external forces over 200 of years. All through its history, agriculture had been the basic occupation of the people on this fertile deltaic land. People eked out their living which profoundly influenced their creation. These rural people led a simple life, where main Vehicles are Rickshaw, van, bicycle and cattle's car. These were the timeless Vehicles that resulted from the primitive's rural consciousness and aesthetic sensibilities. It changed little through centuries of political and social upheaval and is built even today. Parallel to this is occurred the development in the urban scenario, which changed substantially with the changes in political scene. Because of the destructive external forces and devastating natural calamities, very little survives today. However like any other country, the ancient or early period of this country was marked by religion based politics, because religion could work as a unique control mechanism for the people of oral culture of those days. But the most fascinating thing noticeable among early people was the profound sense of awareness about the finite and infinite.



**Figure 1:** Rickshaw at Dhaka city in Bangladesh

As a key part of the urban landscape in many cities in the Bangladesh, rickshaws have been both the subject of artwork, as well as being extensively decorated themselves. The rickshaws in Dhaka is especially well-known as a major venue

for Bengali folk art; there, plasticized cutouts and hand-painted figures adorn many rickshaws (Cycle rickshaw, web viewed). Rickshaw arts cannot be assigned to any static "genre". They are popular as opposed to "fine" arts. They appropriate multiple forms which include folklore, classical art elements, and commercial forms. They also reflect the economic globalization process, which is occurring all over the world today, in their fascination with movie stars and narratives, with US disco during the seventies, with foreign travel scenes and fancy red sports cars (Joanna 2009). The design of the traditional vehicle also influences by the religion and the time periods. Traditional rickshaw is also subject to change around the world but in Bangladesh the traditional vehicle rickshaw still has clung to tradition. It has not really changed until recently. Different types of available Vehicle in the Bangladesh according to the use of energy are shown in table 1.

**Table 1:** Different type of Vehicle in Bangladesh

<b>Modes of public Vehicle</b>	<b>Fossil fuel Vehicle</b>	<b>Alternative fuel green Vehicle</b>
<b>Water Vehicle</b>	Ferry, Water taxi, Engine Boat, Ship	Boat
<b>Air Vehicle</b>	Commercial aviation,	
<b>Rail Vehicle</b>	High-speed rail, Inter-city rail, Interurban, Regional rail, Commuter rail, Heritage railway,	
<b>Road Vehicle</b>	Bus, Trolleybus ( Public light bus), Share taxi, Paratransit, Vehicle for hire (Taxicab), Motorcycle, Auto rickshaw, ,	Cycle rickshaw, Horse car, Cow-drawn vehicle, bicycle, Horse-drawn vehicle, Tricycle Van
<b>Other modes</b>	Personal rapid transit , People mover, Van,	

### 3. Economical Social Issue

In Dhaka city where they are widely used, rickshaw driving provides essential employment for recent immigrants from rural areas, generally impoverished men. Bangladeshi rickshaw pullers are mostly from the district of Rongpur. Because of the recent famine and less job opportunities, people from there migrate to Dhaka, Sylhet and Chittagong to pull rickshaws. One study in Bangladesh showed that rickshaw driving was connected with some increases in income for poor agricultural laborers who moved to urban areas, but that the extreme physical demands of the job meant that these benefits decreased for long-term drivers. In rural areas of Bangladesh, most rickshaw drivers were former landless agricultural laborers. In 2003, Dhaka rickshaw drivers earned an estimated average of Taka 143 (US\$2.38) per day, of which they paid about Taka 50

(US\$0.80) to rent the rickshaw for a day (Cycle Rickshaw, web viewed). There is no fixed rate for certain distance, it depends on driver wishes. Now in Dhaka in 2009 the rickshaw association try to start the fixed a minimum rate according to distance. Older, long-term drivers earned substantially less. These wages, while widely considered very low for such physically demanding work, do in some situations compare favorably to other jobs available to unskilled workers.

In Bangladesh, most drivers do not own their own rickshaws; instead, they rent rickshaw from their owners, some of whom own many rickshaws. Driver-ownership rates vary widely. According to Bangladesh's rickshaw study In Dhaka, only near about five percent of drivers owned their vehicles. In Bangladesh, driver-ownership is usually highest in rural areas and lowest in the larger cities. Most rickshaws in this country are owned by individuals who have only one or two of them, but some owners in the largest cities own several hundred.

Some areas of the Dhaka city has banned or restricted rickshaws. They are often prohibited in congested areas of major Dhaka city. For example, they were banned in VIP road in the Dhaka as not fitting the modern image of the city being promoted by the government. In Dhaka they are no longer permitted on major roads of some areas, but are still used to provide vehicleation within individual urban neighborhoods. They are mainly banned entirely in crowded areas of Dhaka, while they have been criticized for causing congestion, rickshaws are also often hailed as environmentally-friendly, inexpensive modes of vehicleation in the Bangladesh. A large number of people in Dhaka depend on this cheapest vehicleation as their only daily use of Vehicle. People of Bangladesh need to be concern about the conservation of the traditional sustainable green vehicle rickshaws in the Bangladesh.



**Figure 2:** Rickshaw stand within individual urban neighborhoods in Dhaka.

In Dhaka the road traffic security rules require rickshaw to be registered by their owners with the police before they can be legally driven on public roads. Their drivers must carry the police registration documents on road otherwise police

sees the rickshaw as the illegal rickshaw, but no driver license is required. The administrative fines are based on the punishment of violation of road traffic regulations. Police in Bangladesh have begun a campaign to remove unlicensed cycle rickshaws from the capital, Dhaka. The authorities say the long-term aim is to halve the city's estimated 400,000 cycle rickshaws (BBC news, 2002). That is indicating 400,000 family earning depends on this occupation in the city.

As road traffic is now heavily motorized, to avoid accident of rickshaw have a different lane to drive rickshaw in road. In major road of Dhaka city, most rickshaws have been replaced by auto- rickshaw, but they can still be found at limited places. In light of finding feasible sustainable solutions to socio-economic problems, a lot has been done to improve the condition of the pullers, yet, the way seems long. One of the issues of primary concern is to ensure safety of their rights, given that they can be easily outraged due to their relegation. The first step towards achieving this could be to ensure the proper licensing of all rickshaws. The process of issuing licenses should be fast, simple and transparent. The Government should take strict action against those who indulge in bribery.

Associations could be formed to deal with the complaints of the rickshaw pullers and to provide them with basic amenities. The Centre for Rural Development (CRD) with the technical assistance of IIT Guwahati in India has done a commendable job in this field by setting up a Rickshaw Bank. As the pullers become members of the Rickshaw Bank, a rickshaw loan amounting to Rs.9000/- is sanctioned against their name with an instruction to repay the amount by paying Rs.25/- per day. A passbook is issued in their name where savings and installment recovery status are properly maintained with the help of Monitoring Information System (MIS). Rickshaw puller licenses are also provided to do away with the harassment meted out by the police and municipality.

More associations like these should be encouraged in order to improve the standard of living of the rickshaw pullers. Also, separate stands for the rickshaws would be a much needed relief from police harassment as well as for easy access to the commuters. Separate tracks should be created for rickshaws so that they do not have to compete for road space with fast moving traffic. If possible, only cycle rickshaws should be allowed to operate in heavily congested areas which would reduce pollution and clogging far more effectively than the present policy of banning the entry of rickshaws. Moreover, some NGOs could shoulder the responsibility of educating the rickshaw pullers of the basic traffic rules and regulations.

Another alternative is the Motor Assisted Pedal Rickshaws (MAPRA). In this system, a small motor is attached to assist pedaling whenever a great load is experienced. The extra power may also allow them to ply longer distances.

**Table 1:** Development issue and executing agency

Issues	What needs to be done	Executing agency
<p>1.Healh: In addition to the physical challenges, the pullers and pushers in the non-motorized sector are exposed throughout the day to harmful rays of the sun, acid rain, toxic emissions from motorized vehicles that contain suspended particulate matters (SPM), carbon monoxide (CO), sulphur dioxide (SO2) and air borne lead, lung-afflicting dust particles, and the extreme heat and fluctuating cold ... not to mention the verbal abuse and monetary exploitation from passengers and the corrupt traffic officials that is their added daily reward.</p> <p>2. In addition to affecting the livelihoods of the rickshaw pullers, it will also affect parts suppliers, mechanics, rickshaw owners who rent out these vehicles and the corrupt officials who prey on this helpless group. These constituencies are likely to work against the phasing out of non-motorized vehicles unless an all-inclusive strategy is carefully devised. Moreover an upwardly mobile social class may have serious reservations about using public buses. Nevertheless,</p>	<p>Government can allocate funds for training on health and reducing the hazardous effects of chemicals which will benefit the environment as well.</p>	<p>Government</p> <p>NGOs</p> <p>Government</p> <p>Government and</p>

<p>the non-motorized vehicles need to be phased out if congestion and its adverse effects are to be dealt with.</p> <p>3. The easiest way to do so would be to enforce license requirements, which according to the estimates, would reduce roughly 80 percent of the rickshaws from the streets. But expecting corrupt officials to play their role may be a bit of a fantasy. Removal of rickshaws by decree or force portends resistance that may easily escalate into violence and widespread destruction of property. Perhaps the best option is to induce behavioral change in their "customers," encouraging them to shift from rickshaws to buses as a cheap and convenient means of Vehicleation.</p> <p><b>4. Rehabilitation:</b> Reducing or phasing out non-motorized vehicles certainly means having to deal with the lives of the displaced rickshaw pullers and related others and rehabilitating them. A significant amount of funds will be necessary for this purpose to train them in other skills, absorb them into the motorized Vehicleation sector, employ them in road maintenance work, or to provide them with other alternatives.</p>		<p>NGOs</p> <p>Government and NGOs</p>
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**Figure 3:** Soleckshaw: Solar Powered Rickshaw in Old Delhi (*Dr Vandana Prakash, April 2009*)

The plans to adopt the Solar Rickshaws are indeed a great step forward, but in this euphoric hype several important issues and questions are conveniently pushed under the rug: the soleckshaw is about three times as expensive as the cycle-rickshaw (\$440 (Rs. 22000) as against \$170 (Rs 8500)); secondhand ones or those remodeled from old bicycles are cheaper still. If the rickshaw-pullers could not afford their own rickshaw at \$170 (Rs 8500), how are they more likely to become proud-owners by being able to afford the \$440 (Rs 22000) one? How will the rickshaw-puller be able to handle the additional costs of electric-charging, batteries, solar-panels etc., on the soleckshaw if they could not look beyond the leasing-option on the no-such-additional-costs cycle-rickshaw? The dream of making the lessee rickshaw-pullers self-reliant, proud owners too needs greater planning and market research. If not, then the Center for Rural Development's loans for soleckshaw may well turn-out to be as faulty and nearly as "toxic" as the US housing-market ones that are responsible for current economic woes globally.

#### **4. Conclusion**

Sustainability, in a broad sense is the ability to maintain a certain process of functions and productivity into the future. The more use of the rickshaw as Vehicle can save our environment from air pollution by toxic emissions. So the society will be able to maintain a healthy quality of life that will have a positive impact on future generation of Bangladesh. Environment friendly Vehicle or vehicle rickshaw is able to protect our mother nature and to develop sustainable city in Bangladesh. However, there is now clear evidence that humanity is living unsustainably in Bangladesh, and that an unprecedented collective effort is needed to return human use of natural resources as much as possible to within sustainable limits. For people of Bangladesh to live sustainable, the resources must be used at a rate at which they can be replenished.



## Reference

Azni Zain- Ahmed, 2008, "*Contemporary issues in energy and buildings in Malaysia: Focus on R&D and Policies*", Proceedings 9<sup>th</sup> sevar + second isess 2008.

BBC News, World edition, 5 October, 2002, "Cycle rickshaw", Learn about Cycle rickshaw at free health dictionary web viewed

Heyzer, N. (2008), "*Devoting their energy to finding security.*" The New Straits Times. Friday 1 may 2008.NST Press

Joanna Kirkpatrick, PhD UCB 1970, the rickshaw art of Bangladesh